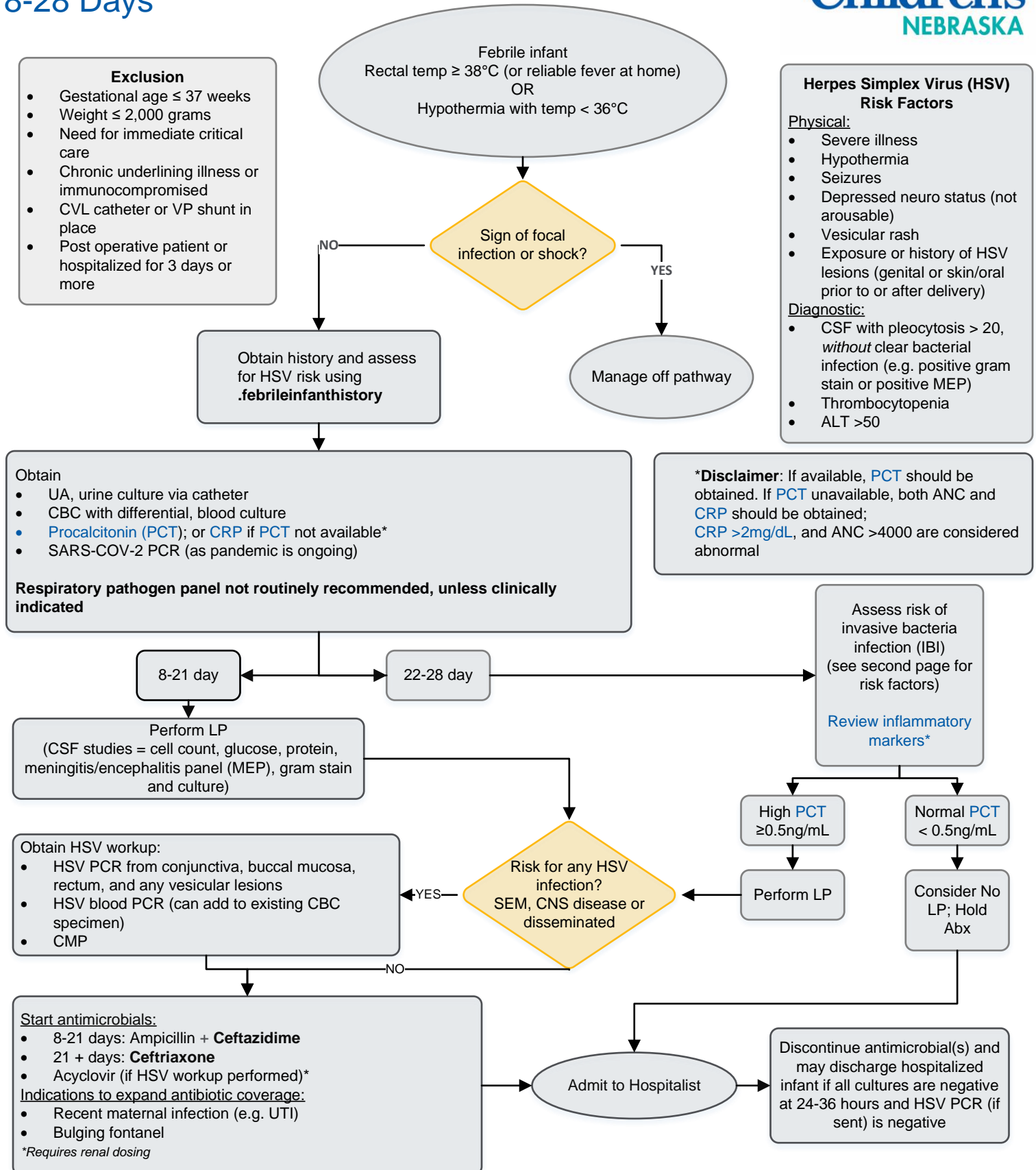


FEBRILE INFANT PATHWAY

8-28 Days



- Exclusion**
- Gestational age ≤ 37 weeks
 - Weight ≤ 2,000 grams
 - Need for immediate critical care
 - Chronic underlying illness or immunocompromised
 - CVL catheter or VP shunt in place
 - Post operative patient or hospitalized for 3 days or more

- Herpes Simplex Virus (HSV) Risk Factors**
- Physical:
- Severe illness
 - Hypothermia
 - Seizures
 - Depressed neuro status (not arousable)
 - Vesicular rash
 - Exposure or history of HSV lesions (genital or skin/oral prior to or after delivery)
- Diagnostic:
- CSF with pleocytosis > 20, *without* clear bacterial infection (e.g. positive gram stain or positive MEP)
 - Thrombocytopenia
 - ALT >50

***Disclaimer:** If available, PCT should be obtained. If PCT unavailable, both ANC and CRP should be obtained; CRP >2mg/dL, and ANC >4000 are considered abnormal

Obtain

- UA, urine culture via catheter
- CBC with differential, blood culture
- Procalcitonin (PCT); or CRP if PCT not available*
- SARS-COV-2 PCR (as pandemic is ongoing)

Respiratory pathogen panel not routinely recommended, unless clinically indicated

8-21 day

Perform LP
(CSF studies = cell count, glucose, protein, meningitis/encephalitis panel (MEP), gram stain and culture)

22-28 day

Assess risk of invasive bacteria infection (IBI) (see second page for risk factors)

Review inflammatory markers*

High PCT ≥ 0.5ng/mL

Normal PCT < 0.5ng/mL

Perform LP

Consider No LP; Hold Abx

Obtain HSV workup:

- HSV PCR from conjunctiva, buccal mucosa, rectum, and any vesicular lesions
- HSV blood PCR (can add to existing CBC specimen)
- CMP

Start antimicrobials:

- 8-21 days: Ampicillin + Ceftazidime
- 21 + days: Ceftriaxone
- Acyclovir (if HSV workup performed)*

Indications to expand antibiotic coverage:

- Recent maternal infection (e.g. UTI)
- Bulging fontanel

*Requires renal dosing

Discontinue antimicrobial(s) and may discharge hospitalized infant if all cultures are negative at 24-36 hours and HSV PCR (if sent) is negative

FEBRILE INFANT PATHWAY

29-60 Days



- Exclusion**
- Gestational age \leq 37 weeks
 - Weight \leq 2,000 grams
 - Need for immediate critical care
 - Chronic underlying illness or immunocompromised
 - CVL catheter or VP shunt in place
 - Post operative patient or hospitalized for 3 days or more

Febrile infant
Rectal temp \geq 38°C (or reliable fever at home)
OR
Hypothermia with temp $<$ 36°C

Sign of focal infection or shock?
If high suspicion of bronchiolitis continue pathway

- Herpes Simplex Virus (HSV) Risk Factors**
- Physical:
- Severe illness
 - Hypothermia
 - Seizures
 - Depressed neuro status (not arousable)
 - Vesicular rash
 - Exposure or history of HSV lesions (genital or skin/oral prior to or after delivery)
- Diagnostic:
- CSF with pleocytosis $>$ 20, *without* clear bacterial infection (e.g. positive gram stain or positive MEP)
 - Thrombocytopenia
 - ALT $>$ 50

Obtain history and assess for HSV risk using **.febrileinfanthistory**

Manage off pathway

- Obtain
- UA with reflex to culture via catheter
 - CBC with differential, blood culture
 - **Procalcitonin (PCT)**; or **CRP** if **PCT** unavailable
 - SARS-COV-2 PCR (as pandemic is ongoing)
- Respiratory pathogen panel not routinely recommended, unless clinically indicated**

- Risk Factors for Invasive Bacterial Infection (IBI)**
- Ill-appearing
 - Previously hospitalization or prolonged nursery course
 - **Procalcitonin \geq 0.5ng/mL** OR ANC $>$ 4,000 and **CRP \geq 2mg/dL**
 - Fever \geq 38.5
 - If CXR performed, discrete infiltrates present
 - Prior antibiotic use
- ANY positive criteria equals High Risk**

Review risk criteria and UA

Low Risk; No indication for admission

Low risk with normal UA; Meets admission criteria

Low risk with abnormal UA

High Risk for IBI

No antimicrobials and assure close PCP follow-up within 24 hours

No antimicrobials if meets low risk criteria

May consider LP Start Ceftriaxone; Non-meningitic dosing

- Perform LP: CSF studies (cell count, glucose, protein, meningitis/encephalitis panel (MEP), gram stain and culture)
 - Start ceftriaxone (meningitic dosing)
- If Risk for HSV or CSF with pleocytosis $>$ 20 without clear bacterial infection add:
- HSV PCR from conjunctiva, buccal mucosa, rectum, and any vesicular lesions
 - HSV blood PCR (can add to existing CBC specimen)
 - CMP
 - Start Acyclovir

Discharge

Admit to Hospitalist

Discontinue antimicrobial(s) and may discharge hospitalized infant if all cultures are negative at 24-36 hours and HSV PCR (if sent) is negative



Disclaimer: Pathways are intended as a guide for practitioners and do not indicate an exclusive course of treatment nor serve as a standard of medical care. These pathways should be adapted by medical providers, when indicated, based on their professional judgement and taking into account individual patient and family circumstances.

FEBRILE INFANT PATHWAY:

Medication Dosing



*Only applies to patients \geq 37 weeks gestation at birth

Febrile Infant: Antibiotic Dosing 8-21 days

- Acyclovir: 20mg/kg IV every 8hr^{1,2}
- Ampicillin: 75mg/kg IV every 6hr^{1,2}
- CefTAZidime: 50mg/kg q8hr^{1,2}

These antibiotics require renal dosing

References:

1. Lexicomp Online, Pediatric and Neonatal Lexi-Drugs Online, Hudson, Ohio: UpToDate, Inc.; 2020; accessed: 8/26/2020
2. Micromedex® (electronic version). IBM Watson Health, Greenwood Village, Colorado, USA. Available at: <https://www.micromedexsolutions.com/> (accessed: 8/26/2020).

Febrile Infant: Antibiotic Dosing 22-60 days

- Acyclovir: 20mg/kg IV every 8hr^{1,2}
- CefTRIAxone: 50mg/kg IV every 12hr (CNS infection)¹
50-75mg/kg IV every 24hr (non-CNS infection)¹

References:

1. Lexicomp Online, Pediatric and Neonatal Lexi-Drugs Online, Hudson, Ohio: UpToDate, Inc.; 2020; accessed: 8/26/2020
2. Micromedex® (electronic version). IBM Watson Health, Greenwood Village, Colorado, USA. Available at: <https://www.micromedexsolutions.com/> (accessed: 8/26/2020)

FEBRILE INFANT PATHWAY:

Glossary



- ABX:** Antibiotics
- ALT:** Alanine transaminase
- ANC:** Absolute neutrophil count
- CBC:** Complete blood count
- CMP:** Comprehensive metabolic panel
- CNS:** Central nervous system
- CRP:** C-reactive protein test
- CSF:** Cerebrospinal fluid
- CVL:** Central venous line
- CXR:** Chest X-ray
- HSV:** Herpes simplex virus
- IBI:** Invasive bacterial infection
- IM:** Intramuscular
- LP:** Lumbar puncture
- MEP:** Meningitis/encephalitis panel
- PCR:** Polymerase chain reaction
- SEM:** Skin, eye, and mouth
- PCT:** Procalcitonin
- UA:** Urinalysis
- VPS:** Ventriculoperitoneal shunt